Exercise   1   *The set of integers is the set* $\{\ldots, -3, -2, -1, 0, 1, 2, 2, \ldots\}$ *consisting of all counting numbers, their negatives, and zero.*

The floor *of* x, *denoted* $\lfloor x \rfloor$ *is defined to be the largest integer* k *with* $k \leq x$. *For example,* $\lfloor 5.2 \rfloor = 5$, $\lfloor -99.9 \rfloor = -100$ *and* $\lfloor -3 \rfloor = -3$.

(a) *The function* f *defined by* $f(x) = \lfloor x \rfloor$ *is*

   Multiple Choice:

   (i) *odd.*

   (ii) *even.*

   (iii) *neither odd nor even.* ✓

   (iv) *both odd and even.*

(b) *The function* f *defined by* $f(x) = \lfloor x \rfloor$ *is*

   Multiple Choice:

   (i) *one-to-one.*

   (ii) *not one-to-one.* ✓